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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,452	07/30/2003	Bradford A. Ritter	100110416-1	9261

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EXAMINER	
CHEN, WENPENG	

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,452	RITTER ET AL.	
	Examiner	Art Unit	
	Wenpeng Chen	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 July 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 7/30/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 101

1. Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility states in page 53 that "A claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory."

However, Claim 5 does note recite explicitly "a computer-readable medium encoded with a computer program". The recitation of "a computer-readable medium having a program" may include other nonstatutory subject matters.

Currently in TC 2600, it is required explicitly to include "computer-readable medium", "encoded", and "computer program" in the claim language to make it explicitly a statutory subject matter.

Claim Rejections - 35 USC § 103

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US patent 6,384,834) in view of Malzbender et al ("Polynomial texture maps", Malzbender, Tom, et al., Proceedings of the 28th annual conference on Computer graphics and interactive techniques, August 2001).

a. Watanabe teaches a texture mapping system, comprising:

-- for Claim 1, memory for storing a parametric texture map, the parametric texture map having a plurality of texels; (Fig. 1; column 7, line 66 to column 8, line 43; storage 242)

-- for Claim 1, a texture map manager configured to perform a rotation of a texture defined by the parametric texture map, the texture map manager further configured to adjust at least one of the texels to compensate for the rotation. (Fig. 1; column 1, lines 13-61; column 7, line 66 to column 8, line 43)

However, Watanabe does not teach the recited feature related to "a variable expression that defines a luminosity parameter as a function of light direction".

Malzbender teaches a texture mapping approach, comprising:

-- for Claim 1, a parametric texture map, the parametric texture map having a plurality of texels, each of the texels defining a variable expression that defines a luminosity parameter as a function of light direction. (section 3.2)

It is desirable to improve realism of 3D image rendering. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use Malzbender's polynomial texture maps to render Watanabe's image at the perspective viewing angles of surfaces of an object during rotation, because the combination improves realism of 3D image rendering of rotated image. The combination thus teaches:

-- memory for storing a parametric texture map, the parametric texture map having a plurality of texels, each of the texels defining a variable expression that defines a luminosity parameter as a function of light direction;

-- a texture map manager configured to perform a rotation of a texture defined by the parametric texture map, the texture map manager further configured to adjust the variable expression of at least one of the texels to compensate for the rotation.

Malzbender further teaches:

-- for Claim 2, wherein the variable expression of the one texel defines a luminosity behavior for the one texel; (section 3.2)

-- for Claim 3, wherein the variable expression of the one texel is defined according to the equation defined in Claim 3. (equation 5)

b. Claim 5 is a "computer-readable medium" claim corresponding to Claim 1. Watanabe teaches that the method can be implemented by software means using a general-purpose processor (column 14, lines 46-51). Because the software has to reside in a storage medium in the processor for the disclosed processing, the combination of Watanabe and Malzbender as discussed above also teaches Claim 5.

c. Evidently, the above discussion also shows that the combination of Watanabe and Malzbender also teaches the texture mapping system recited in Claim 6, the texture mapping methods recited in Claims 7-9 and 11-13.

d. With regard to Claims 4, 10, and 14, the recited expression is an obvious result of transformation from a vector to another due to rotation. When an object is rotated, the light vector with respect to the texture surface coordinates changes accordingly. The transformation

represented in paragraphs [0101]-[0109] of the present application is just the change of parameters because the change of the direction of a light vector. So when one apply Watanabe's teaching to rotate Malzbender's polynomial texture map, one inherently will reach the same expression recited in Claims 4, 10, and 14. Therefore, combination of Watanabe and Malzbender as discussed above also teaches Claims 4, 10, and 14.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 2, 5, 6, 7, 8, 11, and 12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5, 9, 1, 11, 15, 11, and 15 of U. S. Patent No. 7,030,884, respectively, in view of Watanabe (US patent 6,384,834).

When Claims 1, 2, 5, 6, 7, 8, 11, and 12 are compared with claims 1, 5, 9, 1, 11, 15, 11, and 15 of U. S. Patent No. 7030884, respectively, we found the latter set teach all the limitation or their equivalence except the feature related to rotation.

Watanabe teaches a texture mapping system, comprising:

-- memory for storing a parametric texture map, the parametric texture map having a plurality of texels; (Fig. 1; column 7, line 66 to column 8, line 43; storage 242)

-- a texture map manager configured to perform a rotation of a texture defined by the parametric texture map, the texture map manager further configured to adjust at least one of the texels to compensate for the rotation. (Fig. 1; column 1, lines 13-61; column 7, line 66 to column 8, line 43)

It is desirable to apply texture mapping to objects during rotation to improve realism of 3D image rendering for rotated objects. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use Malzbender's texture maps to render Watanabe's image at the perspective viewing angles of surfaces of an object during rotation, because the combination improves realism of 3D image rendering of rotated image.

Conclusion

5. The prior art made of record in form PTO-892 and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 571-272-7431. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 571-273-8300 for After Final communications. TC 2600's customer service number is 571-272-2600.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Wenpeng Chen
Primary Examiner
Art Unit 2624

October 12, 2006